Contribution ID: **66** Type: **Talk**

R-Weg : A new high-intensity electron beamline at DESY II

Monday 20 June 2022 15:30 (20 minutes)

The R-Weg is a former transfer beamline from the DESY II synchrotron to DORIS. Recently, it has been recommissioned to serve as a high-rate electron beam line. The full DESY II beam with up to 1.5×10^{10} e^- per bunch can be dumped at a rate of 12.5 Hz. The available high rates allow not only for precise detector tests, but also electron irradiation campaigns. To ensure safe and controlled operation, it is necessary to understand the beam parameters and radiation field in detail. Therefore, the R-Weg is studied using a Monte-Carlo simulation framework for the interaction and transport of particles in materials: FLUKA. Typically, it is optimized for the study of radiation and beams.
Using FLUKA, the radiation backgrounds, neutrons and gamma from the beam dump are simulated and verified by an appropriate measurement device such as a radiation monitor. In addition, the beam stability at different extraction timings, which is influenced by the instability in the mains frequency, is going to be simulated while the study of beam profile is going to be conducted.
In this presentation, an overview of the recent progressing simulation and measurement is given.

Author: KIM, Dohun

Presenter: KIM, Dohun

Session Classification: Facilities